

# Synopses

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## Postgraduate Essay Competition Winner

"Discuss alternative modalities in the diagnosis and management of early childhood carious lesions"

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### Introduction

Dental caries is an infectious disease resulting in the localised destruction of tooth structure. The prevalence in preschool children may be 40-50%.<sup>1,2</sup> Untreated dental caries frequently requires emergency management and has been associated with failure to thrive. Poor aesthetics, pain and loss of function contribute greatly to the associated morbidity.

Diagnosing and managing dental caries in preschool children requires significant cooperation by both the child and parents/carers. Dental caries is preventable, and early diagnosis and appropriate management strategies are required to ensure minimal impact on the dentition. New developments in caries detection and management approaches will change the practice of dentistry. This essay will explore these alternative modalities and evaluate their merit in diagnosing and managing early childhood carious lesions of vital teeth.

### The nature of Dental Caries

#### Aetiology of Dental Caries

Dental caries is a multifactorial disease caused by bacteria, namely *mutans streptococci* (MS) and *lactobacilli*. These aciduric and acidogenic bacteria metabolise fermentable dietary carbohydrate to form lactic and other acids. Held within the plaque matrix,

the acids concentrate on the enamel surface promoting sub-surface demineralisation. To initiate dental caries, a susceptible tooth surface, cariogenic bacteria, frequent consumption of fermentable carbohydrate and time are required.

*Mutans streptococcus* and *sobrinus* are the putative aetiological species in dental caries, requiring a non-shedding surface for colonisation.<sup>3</sup> A "window of infectivity" has been suggested between 19 and 31 months.<sup>4</sup> Prolonged breast-feeding (beyond nine months) influences vertical transmission of these species and an increase in caries rate.<sup>5</sup> Early acquisition of MS increases the risk of developing dental caries, but their presence does not imply that dental caries will occur.

The initial enamel carious lesion ('whitespot'), is due to an imbalance between demineralisation and remineralisation at the enamel surface. As the pH of dental plaque drops below 5.5 (the critical pH for enamel dissolution), minerals are lost. Lactic acid, the predominant by-product of bacterial fermentation of dietary carbohydrates, drives this process. Prior to cavitation the lesion is bacteria-free, and preventive measures may be employed. Following cavitation, *lactobacilli* colonise, infecting dentine the outer layers of dentine, therefore requiring surgical intervention. All infected dentine must be removed and replaced with a

biologically compatible material.

Dentinal carious lesions may be found in both primary and permanent teeth where the enamel is still intact.<sup>6</sup> These lesions have been referred to as "occult" caries, "hidden" caries and more recently, "pre-eruptive dentine defects". This term is more suitable when the radiolucencies are seen prior to tooth eruption, and resorptive cells are noted histologically within the lesions.<sup>6</sup>

*Continued on page 3...*

### THIS ISSUE

1. Alternative modalities in the diagnosis and management of early childhood carious lesions
2. President's Report
9. AAPD merges with ASDC  
Luc Martens in New Zealand
10. The application of psychological theories in the behaviour management of the paediatric patient
15. 13th ANZSPD Conference Report
17. ANZSPD – Branch News 2001
20. ANZSPD – Federal Report 2001
20. ANZSPD – Branch News 2002/3
23. ANZSPD – Federal Report 2002/3
24. Coming events



## President's Report

As this is my first Presidential Report I am very aware of the leadership and direction given to the Society by the previous incumbents of this position. I trust that I shall be similarly able to serve our Society.

ANZSPD at both State and National level is the major broad-based provider of Continuing Education in paediatric dentistry to personnel who deliver dental care to children. Our Continuing Education programmes have in the past also provided significant inter-collegiality between the various providers of paediatric dental care. Our last Biennial Conference held in Brisbane last November was a major success, with the largest attendance of any ANZSPD function ever. The Conference, with a theme "Pulp / Material Interface, Fact or Fiction" was provided with a comprehensive and relevant overview of this mainstream topic, and was complemented by a well-organised and enjoyable social programme. Past President Kerrod Hallett and the Queensland Branch organising committee are to be commended for their efforts.

The Victorian Branch is well under way in organising the next biennial Conference, to be held in Melbourne 18-20 March 2004. The invited Speaker is Dr Stephen Fayle from the University of Leeds, who has agreed to provide a series of presentations of relevance to challenges that we face in providing clinical paediatric dentistry. Dr Fayle was well received at the European Academy of Paediatric Dentistry meeting, held in Dublin last June. The lecture programme is to be complemented with local ANZ talent. The venue, the Melbourne Exhibition and Convention Centre is located next to the Yarra, adjacent to the Southbank complex, and provides an array of boutique shops, and restaurants offering a wide variety of ethnic cuisine.

Melbourne in the early autumn enjoys warm, pleasant and stable weather, and still has daylight saving operating, giving longer daylight in the evenings. Please mark your diaries now!

ANZSPD has always striven to provide Continuing Education and promote dental health for children. Within the umbrella of the broad membership base of ANZSPD is expertise and devotion to maintain and improve standards of dental care for children. The Australasian Academy of Paediatric Dentistry at a meeting held before the Brisbane Biennial Conference officially published "Standards of Care". These guidelines have been drawn up collectively from the expertise, knowledge, and commitment of countless hours of time freely given by many Australian and New Zealand paediatric dentists, all of whom are members of ANZSPD. The publication represents a major step forward in promoting a high standard of dental care delivery for children within Australia, New Zealand and elsewhere.

Through my role of assisting in assessment of overseas dental graduates in the discipline of paediatric dentistry in the Australian Dental Council examination system, and also through practising clinical paediatric dentistry in both public and private sectors, I have become aware of threats to standards of care that we often take for granted. Threats to standards of care may come from inter-professional challenges as well as from obvious economic and political forces and constraints. An example that I have encountered in the public sector of recent times has been the promotion by a number of anaesthetist colleagues of laryngeal mask airways in lieu of nasal endotracheal intubation for restorative care under general anaesthesia in small children. What some anaesthetists regard as an anaesthetic advance effectively limits the quality of dental care delivery. Whilst acknowledging the indication for laryngeal mask airways from an anaesthetic standpoint in a small number of clinical scenarios, indiscriminate promotion of laryngeal mask airways represents a lazy way out, and is to be

deplored. Use of laryngeal mask airways limits the quality of intra oral radiography, prevents assessment and checking of occlusion especially during the placement of stainless steel crowns, reduces operative quality with limitations to handpiece access and angulation, and increases operative time. We must be constantly vigilant for such threats to the quality of dental care delivery to our child patients.

Concerning organisational matters of the Society our Secretary/Business Manager Alistair Devlin has agreed to remain in this pivotal role. Apart from giving continuity to the Society organisation while other office bearers have come and gone, Alistair has the optimism and dedication to see the Society continuing to go from strength to strength. Editor John Winters, after several years of exemplary service has asked to be relieved of this position. On behalf of the Society I wish to thank John for his efforts. A problem that John as Editor encountered was the dearth of articles submitted for publication. I encourage members to send in news articles of activities that are of interest to the readership, as well as submitting reviews and case reports. It is understandably difficult to publish an edition of Synopses if there is little to publish!

Karen Kan has kindly agreed to accept the position of Editor. Karen brings to the position both considerable IT skills and enthusiasm for ANZSPD activities. With continuing assistance from Colgate Oral Care we look forward to seeing more editions of Synopses being published in the near future. Again please send news articles and reports to the Editor.

Finally I wish to acknowledge the support that ANZSPD has received for its Continuing Education activities from Colgate Oral Care. We look forward to a continuing and more formalised relationship with Colgate Oral Care via Dr Jackie Robinson and her team after joint discussions held at the Federal Council Meeting last November.

*Chris Olsen*

*Continued from page 1...*

These lesions can progress rapidly prior to tooth eruption, requiring accurate diagnosis and management to prevent tooth loss.

#### Traditional Approaches to Caries Diagnosis

Diagnosing dental caries in the preschool child is difficult due to short attention spans and a lack of cooperation. Primary teeth are small with thin enamel that is poorly mineralised. Early diagnosis of dental caries is necessary, and may obviate the need for traditional surgical approaches to caries management.

To warrant acceptance by the profession, any new diagnostic test should be more accurate than traditionally accepted methods. Diagnostic tests are rated according to sensitivity and specificity (Table 1). Visual inspection combined with probing and bitewing radiography are widely used methods of detecting dental caries. Visual inspection of interproximal regions is considered to be inherently variable and insensitive.<sup>7</sup> To aid visualisation, orthodontic separators may be placed in cooperative individuals for a few days, requiring an additional visit.<sup>8</sup> An 'impression' of the interproximal region with rubber based impression material has been suggested; this is then inspected for signs of cavitation.<sup>9</sup> This technique is cumbersome for a small child, considering the delivery system.

The diagnostic significance of the dental probe has been criticised recently. The probe can produce cavitation in potentially remineralisable enamel and transmit cariogenic flora to other sites. Probing does not increase the accuracy of visual inspection.<sup>10</sup> In diagnosing fissure caries, probing has a high specificity but low sensitivity.<sup>11,12</sup>

Bitewing radiographs detect caries in the outer half of dentine but not surface cavitation (present in 41-79% of cases).<sup>8</sup> Surface cavitation is found in all cases where caries extends to the inner half of the dentine.<sup>8</sup> Bitewing radiographs may assist in diagnosing occlusal caries, but lesions may be well into dentine before detection.

#### Alternative Diagnostic Modalities

##### Digital Radiography

Direct digital images may be acquired by two methods; the charge-coupled device (CCD) or the storage phosphor system (SP). In the CCD system, the sensor plate is connected to a computer with the resultant image being directly displayed on the computer monitor. In the SP system the image plate is similar to an x-ray film. The imaging plate is placed in a laser scanner and a latent image is created. The images can be enhanced using special software.

For interproximal carious lesions extending into dentine, diagnosis has been rated as fair for sensitivity, specificity and predictive values.<sup>13</sup> For enamel caries, enhanced SP systems allow more accurate diagnosis than conventional radiography.<sup>14</sup> Task specific enhancement routines may aid in diagnosis and treatment decisions.<sup>15</sup> The digital radiography system may be valuable in the preschool child, particularly if imaging plate sizes are varied.

##### Fibre-Optic Transillumination (FOTI)

Fibre-optic transillumination (FOTI) utilises light delivered via fibre-optic cables to illuminate the thoroughly dried tooth surface. Dental caries causes light scattering to increase, resulting in a dark shadow. The diameter of the light source is small to reduce glare and eliminate loss of surface detail. FOTI has been suggested where bitewing radiographs produce overlap and when radiation is best avoided.

FOTI is rated as the least reliable method of caries detection in posterior teeth (Table 1) and maxillary anterior teeth.<sup>8,16</sup> The accuracy of FOTI is similar to visual inspection in detecting occlusal caries.<sup>8,17</sup> FOTI may be a useful adjunct to other diagnostic criteria but restorative decisions should not be based on the outcome of FOTI alone.

Digital imaging fibre-optic transillumination (DIFOTI) couples a CCD imaging camera with FOTI, enabling image capture and storage.<sup>18</sup> The illumination and imaging conditions are controlled and repeatable. Sensitivity of this technique has rated higher than radiological imaging for

caries detection of approximal, smooth surface and occlusal caries.<sup>18</sup> The specificity values are slightly lower than radiologic imaging and DIFOTI can detect incipient or recurrent caries before lesions are visible radiographically.<sup>18</sup>

##### Quantitative Laser/ Light-Induced Fluorescence (QLF)

QLF uses an argon laser in the blue-green region (488nm) that is emitted as green-yellow when placed on the tooth. Fluorescent images are sent via a camera and frame grabber to a computer for analysis. Incipient demineralisation is noted on smooth surfaces and in pits and fissures earlier than on bitewing radiographs.<sup>19</sup>

Dyes may be used to enhance the colour contrast between the lesion and the surrounding tooth structure called dye-enhanced laser fluorescence, or DELF. DELF is a better diagnostic tool than visual examination and light fluorescence.<sup>20</sup>

##### DIAGNOdent (TM)

The DIAGNOdent<sup>TM</sup> (Kavo, Germany) is a portable diode laser-based system utilising laser light (655nm) that is absorbed by inorganic and organic tooth tissues.<sup>21</sup> In the presence of dental caries, some light is re-emitted as near-infrared fluorescent light; the fluorescence increases and is registered in the digital readout. This technique is considered to be reliable for the monitoring of incipient caries and the detection of early dentinal caries.<sup>21</sup>

The sensitivity of DIAGNOdent<sup>TM</sup> (Table 1) in detecting dental caries both in vivo and in vitro appears to be reasonably high when compared with other methods.<sup>19,21,22</sup> In a laboratory-based study visual examination was as effective, when diagnosing occlusal caries in primary molars.<sup>21</sup> Cited advantages of DIAGNOdent<sup>TM</sup> include excellent reproducibility and superior diagnostic outcome when compared with conventional radiography under both wet and dry conditions.<sup>23</sup> Compared with QLF, QLF correlates more closely with loss of mineral content.<sup>19</sup> These promising results suggest that DIAGNOdent<sup>TM</sup> may become more commonplace as dental practices learn of this new diagnostic aid.

**Table 1.** Studies comparing sensitivity (Sn) and specificity (Sp) of various diagnostic aids for detecting dental caries.

Author and Study Type	Specimens	Diagnostic Test	Results
Ashley (2000) <sup>25</sup> ( <i>in vitro</i> )	1st and 2nd primary molars, occlusal (n=58)	ECM	Sn = 0.81 Sp = 0.90
		Visual	Sn = 0.73 Sp = 1
Lussi et al. (2001) <sup>22</sup> ( <i>in vivo</i> )	Occlusal surfaces permanent teeth (n=332)	DIAGNOdent™	Snd = 0.92 Sne = 0.96 Sp = 0.86
		Visual	Snd = 0.31 Sne = 0.62
		Bitewings	Snd = 0.63 Sp = 0.99
Attrill & Ashley (2001) <sup>21</sup> ( <i>in vitro</i> )	1st and 2nd primary molars, occlusal (n=58)	DIAGNOdent™	Sn = 0.77-0.80 Sp = 0.82-0.85 (2 examiners)
Hintze et al. (1998) <sup>8</sup> ( <i>in vivo</i> )	Approximal surfaces, permanent teeth (n=338)	Visual – after tooth separation	Sn = 0.12-0.5 Sp = > 0.9
		FOTI	Sn = 0.00-0.08 Sp = > 0.9
		Radiography	Sn = 0.56- 0.69 Sp = > 0.9
Ashley et al. (1998) <sup>24</sup> ( <i>in vitro</i> )	Occlusal surfaces, permanent teeth (n=103)	ECM	Snd = 0.78 Spd = 0.80 Sne = 0.65 Spe = 0.73
		Visual	Snd = 0.24 Spd = 0.97 Sne = 0.60 Spe = 0.73
Shi et al. (2001) <sup>19</sup> ( <i>in vitro</i> )	Approximal surfaces, premolar teeth (n=40, 71 surfaces)	QLF	Sn = 0.94 Sp = 1.0
		DIAGNOdent™	Sn = 0.75 Sp = 0.96

Sensitivity – the ability of the test to predict true positive cases relative to the total number of positive cases (how well the test can diagnose the presence of caries).

Specificity – the ability of the test to predict the number of negative cases relative to the total number of negative cases (how well caries-free teeth are detected).

Sn = sensitivity, Snd = sensitivity for dentine caries, Sne = sensitivity for enamel caries

Sp = specificity, Spd = specificity for dentine caries, Spe = specificity for enamel caries

ECM – Electronic caries monitor

FOTI – Fibre-optic transillumination

QLF – Quantitative light fluorescence



### Electrical resistance measurement

Demineralisation of subsurface enamel leads to porosities, which fill with water and ions from saliva, increasing the electrical conductance. The Electronic Caries Monitor (ECM, Lode Diagnosis, The Netherlands) measures electrical resistance in pits and fissures. A measuring probe tip and coaxial airflow isolate the measuring site from the surrounding surface. The specificity of ECM was poor *in vitro* (Table 1) but highly reproducible when tried alongside other techniques.<sup>24,25</sup> The caries monitor is useful in identifying and monitoring demineralised sites but may over diagnose dental caries. Radiographs should be analysed carefully before committing to invasive management options.

### Tuned Aperture Computed Tomography (TACT)

This new imaging modality allows interactive sampling of three-dimensional data. The radiation dose is equivalent to one conventional x-ray film. Multiple views or slices through a tooth are obtained in a limited exposure time. The patient can move between exposures without affecting the image. These images can provide up to ten times greater contrast resolution than conventional tomography. The ability of examiners to detect dental caries was not improved by the three-dimensional presentation of information.<sup>26</sup> It has been suggested that more modern charge-coupled devices may improve the diagnostic performance in caries detection although their use for caries diagnosis at this time is limited.

### Caries Detector Dye (CDD)

Caries detector dye is recommended for use during cavity preparation and in detecting pit and fissure caries. CDD stains organic matter within the tooth structure including sound circum-pulpal dentine with a higher proportion of organic matrix. In the primary dentition, CDD should be used cautiously as excessive tissue removal will significantly weaken the tooth.<sup>27</sup> Distinguishing between infected and affected dentine appears impossible clinically, and CDD appears to encourage over-treatment.

### Management of Early Childhood Carious Lesions

Cariou lesions in the preschool child should be treated more aggressively than caries in an older patient. There are two approaches to the management of dental caries: non-surgical and surgical. The management of early childhood carious lesions will be discussed according to the aetiology of the condition.

#### Traditional approaches to management

Traditional strategies of managing early childhood carious lesions include extractions, restorations, or a “wait and watch” approach. Many parents believe that treatment is not required in the primary dentition because they are “just the first teeth.” This surgical approach is not in keeping with current understanding of dental caries. Multiple modalities are now available for managing early childhood carious lesions.

#### Managing Bacterial Levels

Most children acquire MS from their mothers, as primary caretakers. Dental caries is a bacterial infection and successful treatment must include management of the bacterial load in both the child and the mother, thereby preventing the chance of reinfection after appropriate treatment has been instituted.

#### Improving oral hygiene and treating carious lesions

The promotion of effective oral hygiene by tooth brushing and flossing ensures that plaque does not accumulate to levels favouring enamel demineralisation. Parental supervision can ensure optimal oral hygiene for the preschool child and parents should be educated to improve their own oral hygiene.

Restoration of early childhood carious lesions reduces the levels of MS and lactobacilli for up to six months.<sup>28</sup> In adults, 50% of patients returned to pre-treatment bacterial levels 151 days post restorative treatment.<sup>29</sup> Management of dental caries in the child and carer can reduce the likelihood of reinfection once adjunctive management strategies have been enforced.

### Vaccination against dental caries

Current vaccination strategies focus on modifying *mutans Streptococci* species, preventing their ability to colonise tooth structure (essential for caries development), and altering key enzymes.<sup>30</sup> *S.mutans* serotype c produce a cell surface protein antigen (PAC), a key virulence factor for tooth adherence.<sup>31</sup> Subunits of the cholera toxin conjugated with PAC elicit a significant Ag-specific salivary IgA antibody reaction, either by oral or nasal route. Mutants of the cholera toxin (mCT), which lack pathogenicity but retain adjuvanticity, have been used with PAC in mice and a significant reduction in oral colonisation by *S.mutans* was noted.<sup>32</sup> Human studies in this area are yet to be undertaken.

Immunisation with a diepitopic construct of glucosyltransferase, a MS enzyme, has been identified as another potential antigen for a caries vaccine.<sup>33</sup> The diepitopic construct elicited a greater immune response to glucosyl-transferase than by either epitope alone or in a mixture.<sup>33</sup> The cholera toxin based adjuvant used in this example and in PAC, was successful in rats but could be pathological in humans.<sup>34</sup>

### Bacteriocins and Bacteriocin-like inhibitory substances (BLIS)

Bacterial peptide antibiotics, known as bacteriocins or bacteriocin-like inhibitory substances (BLIS), show potential in excluding *mutans Streptococci* from dental plaque.<sup>35</sup> A number of anti-MS BLIS producers have been identified and exhibit differences in their anti-MS and anti-oral streptococcal inhibitory spectra.<sup>36</sup> It is proposed that the purified bacteriocins could be incorporated into mouthwashes and toothpastes, the latter being more appropriate for use in the preschool child. In this therapy the cariogenicity of the strains producing the BLIS should be reduced prior to introduction into the oral environment. A suitable bacterial strain could be introduced into non-cariogenic oral bacteria and implanted in the oral cavity allowing the antibacterial properties to be exploited without increasing cariogenicity.<sup>36</sup>

### Chlorhexidine

Chlorhexidine (CHX) is a cationic

disinfectant that may be used as a mouthwash, gel or varnish (Cervitec®, Vivadent, Schaan, Liechtenstein). At low concentrations CHX is bacteriostatic, interfering with cell membrane permeability and allowing leakage of intracellular contents. At high concentrations cytoplasmic precipitation occurs, rendering CHX bactericidal. The plaque-inhibitory effects may be twofold. The initial effect is bactericidal. Due to the adsorption and prolonged release from oral surfaces, a bacteriostatic effect is created. No synergy or antagonism occurs when CHX is used in combination with other antibacterial agents.<sup>37</sup> However, the combination of CHX and fluoride results in precipitation, cancelling the effects of both medications. Lactobacilli are not as sensitive to CHX as MS.

Topical application of CHX gel for two weeks significantly reduced the levels of *mutans streptococci* for approximately two months.<sup>38</sup> Cyclic use of CHX, although requiring compliance, is an effective aid in managing bacterial levels in children with dental caries. A toothbrush or mouthguard may be used to deliver the CHX mouth rinse.

#### *Testing Bacterial Levels*

Commercially available bacterial strip tests can demonstrate plaque bacterial levels to parents. The carer of the child should be tested and the same methods of reducing bacterial counts employed so that further decay is avoided.

#### *Managing Carbohydrate Intake*

To initiate dental caries, cariogenic bacteria break down dietary carbohydrates. A diet rich in fermentable carbohydrates encourages the growth and colonisation of species such as *mutans streptococci*. These carbohydrates may be sweetened beverages or sticky sweets with a long intraoral clearance time. A dietary analysis may highlight to the parent/carer the foods and drinks contributing to the problem. Alteration of feeding patterns should not be implemented, however, without careful consideration of the medical situation of the child. For example, conditions such as phenylketonuria and cystic fibrosis require frequent carbohydrate intake to ensure survival.

#### *Use of Artificial Sweeteners*

Artificial sweeteners such as xylitol, sorbitol and saccharin in foods have led to the availability of alternative sweets, chewing gums and drinks. Where medical problems are not an issue these are excellent alternatives to traditional sweets. Preschool age children have accepted a xylitol chewing gum.<sup>39</sup>

#### *Alternative Treats*

A treat is not necessarily sweet, and many alternative treats are available for children. Educating parents/carers can contribute to their understanding of dental caries, and the role that fermentable carbohydrates play in these lesions.

#### *Managing Remineralisation*

Loss of sub-surface tooth structure results in a weak enamel matrix and can result in surface cavitation if the lesion progresses. Remineralisation is favoured by increasing the concentration of fluoride in the lesion.

#### *Fluoride*

Fluoride, present in some drinking water and in many preparations such as toothpastes and gels for home use, assists management of the early carious lesion. Frequent use of fluoridated toothpaste provides a fluoride-rich environment in the oral cavity. In the preschool child, 'pea-sized' amounts of toothpaste applied laterally on the brush, will ensure that optimal amounts are used.<sup>40</sup> High concentrations of fluoride are found in fluoride mouth rinses and many topical agents. These should be reserved for professional application only, as inadvertent home ingestion could result in serious complications, including fluorosis. Where home water fluoride concentrations are suboptimal (less than 0.5mg/L), fluoride supplements should be considered.<sup>41</sup> These tablets are chewed and provide a topical effect. The requirements for topical fluoride should be assessed for each child. Fluoride therapy is important in preventing cavitation in early lesions, promoting remineralisation around susceptible restoration margins, and controlling dental caries in high-risk individuals.

#### *Casein Phosphopeptide Amorphous Calcium Phosphate (CPP-ACP)*

Casein phosphopeptides result from digestion of casein milk protein by trypsin, and subsequent aggregation with calcium phosphate. The CPP bind through multiple phosphoseryl residues to clusters of ACP. The CPP-ACP complexes exhibit an anticariogenic effect due to their ability to localise ACP in dental plaque, buffering the free calcium and phosphate ion activities.<sup>42</sup> These complexes can promote enamel remineralisation and inhibit demineralisation. CPP-ACP may be added to many sugar-containing foods, eg. chewing gums, and a clinical trial in children is in progress at the University of Melbourne.

#### *Managing Small Cavitated Lesions*

##### *Air abrasion*

An air abrasive unit was developed initially in the 1940s, but the cavities created had little retention for amalgam restorations. Due to the adhesive materials now available, air abrasion has gained popularity in creating conservative preparations.

A stream of aluminium oxide particles is directed against the tooth surface and abrades without heat, vibration or noise. Incipient carious lesions may be restored without anaesthesia, an advantage in the preschool child.<sup>43</sup> Multiple restorations can be placed in one visit. Air abrasion cannot remove softened dentine or gross caries because the aluminium oxide particles are absorbed or bounce off the surface. Here conventional caries removal techniques must be used.

Protective eyewear, masks, and rubber dam are essential, as the particles become distributed widely. Air abrasion should be used with caution on children with respiratory dysfunction (eg. cystic fibrosis). Air abrasion has the potential to be a valuable tool in the management of small lesions in the preschool child.

##### *Laser*

Laser light is monochromatic, coherent and collimated, allowing concentration of large amounts of energy to a single area.<sup>43</sup> The energy will be absorbed, reflected, scattered or transmitted, depending on wavelength and

properties of the target tissue. Hard tissue lasers have wavelengths in the infrared area of the electromagnetic spectrum, and are capable of cutting enamel, dentine, decay, and soft tissue.<sup>43</sup> Water is used as a coolant and aids in cavity preparation. Laser energy produces microexplosions in the water droplets that separate the target material and remove it mechanically and atraumatically. Lasers may be used without local anaesthesia for tooth preparation, even in deep cavities. Precise and conservative preparations are possible making restorative treatment less traumatic for child patients. Lasers cannot replace drills for routine restorative dental treatment. At present, lasers are expensive and not widely available, but their use will increase with technological improvements.

### Managing Gross Destruction

#### *Chemomechanical Caries Removal*

Chemomechanical caries removal involves application of a reagent that selectively softens carious dentine.<sup>44</sup> The reagent is generally a combination of N-monochloroamino acids and sodium hypochlorite, eg. Carisolv® (Medi Team), and is available as a twin mixing gel containing sodium hypochlorite and the amino acids lysine, leucine and glutamic acid. Softening of the carious dentine facilitates its removal with hand instruments. The procedure is repeated until all caries is removed, (approximately 9-12 minutes); approximately 0.2-1.0 ml of gel is used. The procedure itself does not obviate the need for the high-speed handpiece.

Advantages of this system include removal of only affected dentine and limited pulpal irritation and pain compared with conventional tooth preparation methods. The system has no adverse effects on the bonding of adhesives to permanent dentine.<sup>45</sup>

Carisolv™ has been used in a clinical trial in primary teeth.<sup>46</sup> Most children disliked the taste and the additional time required for tooth preparation, would not recommend it to their friends, and preferred the handpiece for caries removal.<sup>46</sup> This technique requires adaptation before paediatric dentists and children will accept it.

#### *Atraumatic Restorative Technique (ART)*

Developed for caries control in third world countries, the ART technique utilises hand instruments only to facilitate caries removal and self-curing glass ionomer cement for the restoration. In these countries the restorations are treated as a "permanent" form of restoration and are not replaced at a later date. In developed countries where local anaesthetic and modern dental equipment is available, ART may be considered as a viable form of caries control when "buying time" until more permanent restorations may be placed. The use of light cured glass ionomer cements facilitates completion of the restoration. The procedure removes infected dentine that is replaced with a material that releases fluoride and remineralises surrounding tooth structure. Parents should be made aware of the temporary nature of the restoration and the requirement for subsequent replacement.

#### *Biocompatible materials*

Management of deep carious lesions in vital primary teeth is difficult. Young children cannot articulate pain as is required for accurate diagnosis of pulpal status. Direct pulp capping is used infrequently, with pulpotomy being the treatment of choice. Limitations of direct pulp capping with calcium hydroxide include the potential for internal resorption, calcifications, chronic pulp inflammation, necrosis and intraradicular involvement.<sup>47</sup> Indirect pulp therapy using glass ionomer cement has been effective in primary molars when an accurate diagnosis of reversible pulpitis can be established.<sup>48</sup> Similarly, mineral trioxide aggregate (MTA), a product with sealing abilities superior to amalgam and biocompatibility, has been used in pulp capping for primary molars.<sup>49</sup>

Advances in vital pulp therapy for permanent teeth involve the exploitation of endogenous signalling molecules, resulting in a predictable outcome of therapy.<sup>50</sup> Pools of growth factors exist in the dentine matrix, and are released by materials such as cavity conditioners. The growth factors in turn stimulate reactionary or reparative dentinogenesis, ultimately repairing the dental defect and retaining tooth vitality. This therapy

has yet to be investigated in the primary dentition. However, studies investigating this approach to therapy would be beneficial in the paediatric patient. Problems exist with controlling the level of response that is achieved in this type of therapy.

### Conclusion

Our understanding of dental caries has increased, resulting in new modalities for diagnosis and management of early childhood carious lesions. Few clinical trials involving young children have been conducted. The traditional approach to caries diagnosis rates well alongside the alternate modalities. With time this will change as technological improvements are made. Management of early childhood carious lesions requires more than restorative care. Several strategies should be enforced to ensure tooth structure is preserved, and further destruction is prevented.

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## AAPD merges with ASDC

# A triumph for children's oral health

Gina Sandoval

Chicago, Ill. - The American Academy of Pediatric Dentistry (AAPD), the recognized leader in children's oral health, announces its merger with the American Society of Dentistry for Children (ASDC), effective immediately.

The AAPD now speaks not only for the nation's pediatric dentists, but also for the general dentists who treat significant numbers of children in their practices. The AAPD welcomes all 2,000 ASDC members and invites dentists nationwide to join the AAPD as a unified voice for all children.

"This is a very exciting time for us. We are eager to welcome all ASDC members into the AAPD family to work together for optimal care for children," stated AAPD President David K. Curtis.

By joining forces, the unified organization will be able to increase advocacy activities within the health community and local and state governments; continue developing

policies and guidelines that augment and promote the oral health of children; support research activities to develop better methods for preventing and treating oral diseases; provide continuing education courses to all its members so optimum treatment for children is at the forefront of its endeavours; encourage dental students' interest in children's oral health; and serve as the resource for children's oral health information to health care providers, the public and professional colleagues. "It is a definite triumph to see what our unity can do for children's oral health," Curtis added.

"This merger will benefit the oral health care of America's children by bringing together the history and service of both these organizations," stated AAPD Executive Director John S. Rutkauskas.

"ASDC, founded in 1927, has provided a foundation focused on the oral health of children through both the professional organization and its associated Journal

of Dentistry for Children. Improvement in children's oral health is the ultimate goal of the merger," said ASDC President Kevin J. Donly.

Founded in 1947, the American Academy of Pediatric Dentistry is the non-profit membership organization representing the specialty of pediatric dentistry. The AAPD's nearly 5,000 members are primary care providers who also provide comprehensive specialty treatments for infants, children, adolescents and patients with special health care needs. As advocates of children's oral health, the AAPD works closely with legislators, professional associations and health care professionals to develop policies and guidelines, implement research opportunities in pediatric oral health, and educate pediatric dentists, health care providers and the public regarding pediatric oral health. For further information regarding the AAPD, please visit our Web site at [www.aapd.org](http://www.aapd.org).

## Luc Martens in NZ

MA Costelloe, NZ Secretary of the ANZSPD

Luc Martens' presentation on Oral Hygiene for the disabled was a very enlightening presentation, which will be of value to the many health care workers caring for the disabled and some geriatric patients. The video comes with some instructional booklets with relevant diagrams. It is some 40 minutes long and is aimed at carers for the disabled and special needs patients. The initial section covers basic dental diseases (eg caries and periodontal disease). It then covers prevention (diet, toothpaste, and chlorhexidine fluoride) as well as hygiene techniques.

The video was filmed over some two years in a hospital for the disabled in Ghent. Initially filming of daily dental hygiene was undertaken without any oral hygiene instruction.

The reactions and oral features of a wide range of disabilities are recorded (the best view of each) eg gagging, tongue thrust, self-mutilation, and excessive tooth brushing. These views were particularly reassuring to many caregivers. I suspect these people suddenly realised that there is a person who really understands the problems facing the caregivers on a daily basis.

These views were analysed by Luc Martens, collated then suggestions were made on how to address certain issues or mistakes. He comments for example on head support, how caregivers should stand relative to their client, which quadrants to approach first, some useful finger positions etc.

Overall this video is comprehensive. It is not aimed at dentists but it is a must see for all who are involved with special needs and the disabled (intellectual handicap is not a PC expression in NZ). I feel that teaching institutions eg University Dental Schools and Health Authorities would each find this video a reliable resource for postgrads, undergrads, hygienists and caregivers. Each institution and others should each consider purchasing this video, as I find no other resource like this available. The time and effort to produce such a resource would have been excessive but the result is impressive.

Contact Michel Huybrechts via email: [michel.huybrechts@stichtingkinsbergen.be](mailto:michel.huybrechts@stichtingkinsbergen.be) in Belgium. The cost of the video is 120 Euros.

# Undergraduate Essay Competition Winner

## "Discuss the application of psychological theories in the behaviour management of the paediatric patient"

Le Anh Tran

### Introduction

Behaviour management has become as important a part of paediatric dentistry as clinical and technical expertise. This is largely because child dental patients are more prone to experience anxiety in an unfamiliar environment and have less control and less maturity to know how to deal with their anxiety than adult patients. Behaviour management refers to the means by which the paediatric dentist manages the child patient's anxiety in order to perform treatment effectively and efficiently and, at the same time, introduces positive attitudes towards dentistry.<sup>1</sup>

To deal with a problem that is largely psychological, modern paediatric dentistry has developed a set of non-pharmacological behaviour management techniques that are based on psychological theories. The purpose is to teach the child how to behave in a manner the dentist allows or tolerates while providing treatment. Most of the techniques are developed from theories of learning, including habituation, classical conditioning and operant conditioning.<sup>2,3</sup> Though not commonly used, hypnosis has also been shown to be an effective tool in patients who reject or otherwise can not receive pharmacological methods or behavioural interventions and recently has been suggested for more practical applications<sup>4,5</sup>. The non-pharmacological behaviour management techniques as listed in the Reference Manual 2000-2001 of The American Academy of Pediatric Dentistry include voice control, non-verbal communication, Tell-Show-Do, positive reinforcement, and hand-over mouth exercise (HOME)<sup>6</sup>. Other commonly employed techniques also include pre-appointment behaviour modification, response shaping, distraction, response extinction and contingent escape<sup>7,8</sup>.

This essay will discuss how psychological theories are applied to manage behaviour of the paediatric dental patients, who are healthy,

ambulatory and free of systemic disease or medical or intellectual handicap, by examining the currently used techniques and their underlying psychological theories.

### Application of Classical Learning Theory

#### Tell-Show-Do

Tell-Show-Do (TSD) may be the most commonly used technique by dentists of all practitioner types, age groups and geographic region<sup>9,10</sup>. It comprises three components: "Tell" – the explanation of procedures in terms appropriate to the developmental level of the patient; "Show" – the demonstrations of the visual, tactile and auditory aspects of the procedure in a carefully defined, non-threatening setting, and "Do" – the completion of the procedure without deviating from the explanation and demonstration.<sup>6</sup> Although the steps are similar to those of behaviour shaping, TSD uses a different psychological approach. It could be considered as a dental modification of the systematic desensitisation therapy technique developed by Joseph Wolpe (1958), as cited by Carlson and Buskist.<sup>11</sup> Based on Pavlov's classical conditioning, systemic desensitisation is a method of treatment in which the client is trained to relax in the presence of increasingly fearful stimuli. Finally, the conditional stimuli, which are fear-eliciting situations, are paired with stimuli that elicit the learned relaxation response. Through Tell and Show the dentist exposes the child to the increasingly anxiety-related stimuli in a relaxed state. When finally having the treatment ("Do") the paediatric patient has been desensitised and has well-described expectations to produce the response that was shaped previously in the relaxed state. Popular with dentists and parents, Tell-Show-Do provides patient education efficiently in a short amount of chair side time<sup>10,12,13</sup>. The dentist's utilisation of the technique implies concerns and understanding for the child's fear and assists to help

the child to overcome that fear in a gentle, non-intrusive way.

#### Voice control and non-verbal communication

Voice control is a controlled alteration of the dentist's voice volume, tone or pace to influence and direct the patient's behaviour. Non-verbal communication or multisensory communication refers to the reinforcement and guidance of behaviour through appropriate contact, posture and facial expressions by the dentist.<sup>7</sup> Both techniques can be used to gain or maintain the child attention and compliance, to show the clinician's rejection of negative or avoidance behaviour at its inception, and to establish appropriate adult-child roles. These techniques are especially effective in preschoolers or children with limited vocabulary who can get the message in cues other than words expressed by the dentists. Voice control and non-verbal communication reflect Pavlov's theory of classical learning in which conditional response is elicited by stimuli that resemble the conditional stimulus used in training.<sup>3</sup> In this context, the conditional stimulus is the same voice tone, pace or volume or gestures that would usually be made by parents to direct the child in good behaviour or to extinguish a bad one, which is the conditional response. The child will immediately give attention to the firmness of the dentist's voice, the seriousness of his/her gestures, the slow pace or the loudness of the command since the child has learned from experience with parents that these cues precede unpleasant consequences such as parents' anger, shouting or punishment of the child if his behaviour is not changed. Meanwhile, the soft voice with flowing words of encouragement and gentle touching with affection of the dentist or dental assistant has the hypnotic power of a lullaby, which is associated with safety and tenderness and almost always elicits a relaxed, passive and

obedient state in the child. Thus by creating stimuli that resemble the conditional stimuli, the dentist could elicit the same desired response from the child. Voice control and non-verbal communication are widely used by dentists and are generally accepted by parents.<sup>9,10,12,13</sup>

### Distraction

Distraction is possibly the most frequently used technique by the dental team as the technique is easy to apply, timesaving and almost always effective. Distraction replaces a patient's fearful image with a bright cheerful one. The fearful stimulus is subdued by a different, more powerful stimulus to avoid negative response.<sup>14</sup> The other stimulus could be music or audiotapes or most commonly stories told by the dentist or the dental assistants. By engaging the child into the continuous events of a story or fantasy, the dental team distracts the child from the ongoing procedure and is often able to finish the treatment without the child's knowing.

### Application of Operant Conditioning Theory

#### Positive reinforcement

Positive reinforcement can be used alone or with other techniques to strengthen the learned response. In operant conditioning theory, positive reinforcement is an increase in the frequency of a response that is regularly and reliably followed by an appetitive stimulus, which is a desirable stimulus to the organism.<sup>3</sup> In the process of establishing desirable patient behaviour, it is essential to give appropriate feedback to reward desired behaviours and strengthen the repetition of the behaviors.<sup>7</sup> This theory has been supported by Weinstein and colleagues who found that immediate and specific reinforcements were most consistently followed by reductions in children's fear related behavior.<sup>15</sup> Positive reinforcers could be toys, tokens, positive voice, affirmative facial expressions, compliments or appropriate physical demonstrations of affection by the dental team.

If an appetitive stimulus is any stimulus that organism seeks out, then contingent escape, as suggested by Kuhn and Allen could be one effective

positive reinforcer<sup>8</sup>. Studies show that escape from unpleasant or undesirable events is one of the most common and powerful sources of motivations and plays a major role in a number of disruptive behaviour including tantrums<sup>16,17</sup>. Restorative treatment utilising syringes, handpiece sounds, application of rubber dam etc, may become feared stimuli because they are unfamiliar or are associated with discomfort. Thus brief periods of escape from ongoing dental treatment upon cooperative behaviour would not only diminish undesirable behaviours but also increase desirable behaviours.<sup>8</sup> An example of this is giving the child control via asking them to raise their hand if they want to interrupt the procedure. Initial studies have shown that contingent escape requires less time (and produces comparable or better results) than some traditional management procedures.<sup>18</sup>

#### Response extinction

Response extinction is used to eliminate misbehaviour and is based on operant conditioning, a form of learning in which behaviour is affected by its consequences. Favourable consequences strengthen the behaviour and unfavourable consequences weaken the behavior.<sup>3</sup> A child asking "I want Mummy" being answered "You'll see Mummy when I finish" will only wait for few minutes before continuing with "When will you finish?" then "Have you finished yet?" and other similar questions. Thus if an inappropriate behaviour gains the dentist's attention (by answering), it will be reinforced and will help establish the learned response of a continuation of interruptions. However, if the dentist ignores the unwanted behaviour initially and then, in reply to the second question, simply says: "You'll see Mummy when I finish. When you ask me that, I have to stop working and this will make it longer. So I can't stop to answer your question." The learned response will be eliminated by not being reinforced. This is a common management technique to extinguish simple, inappropriate behaviour at its inception.<sup>7</sup>

#### Behaviour shaping

Behaviour shaping is usually practiced with cooperative children. In this

technique, the procedure is explained to the child, items are then introduced before using them; after that, the procedure is carried out and the dentist compliments the child afterwards. This model is repeated with successive steps of the treatment to slowly shape the child's behaviour. Lenchner and Wright describe this technique as "a procedure that very slowly develops behaviour by reinforcing successive approximations of the desired behaviour until the desired behaviour is achieved"<sup>19</sup>. This learning model is based on the technique developed by Skinner in the operant conditioning theory to teach new behaviours to his subjects, known as shaping, which is the reinforcement of behaviour that successively approximates the desired response until that response is fully acquired, as cited by Carlson and Buskist.<sup>3</sup> In the dental context, the successive approximations are the co-operative behaviour of the child when new procedures and new instruments are shown and explained to him, and the desired response is the cooperation when treatment is actually given. This cooperative behaviour is likely to be repeated if a positive reinforcement is given. However, one drawback of behaviour shaping is that the success of this technique is dependent on the successive achievements of the approximations. If the child misbehaves at one stage then the stage needs to be retraced until the cooperative behaviour occurs. Therefore, this technique is now used less frequently and is being replaced by the less time-consuming Tell-Show-Do technique.

### Application of Social Learning Theory

#### Pre-appointment behaviour modification

Pre-appointment behaviour modification is used usually to prepare paediatric patients for their first dental appointment. This eases the introduction to dentistry and is crucial in forming the child's attitude and impression towards dentistry. Although the term refers to anything that is said or done to positively influence the child's behaviour before the child enters a dental surgery,<sup>1</sup> pre-appointment behaviour modification, as conducted by dentists, mainly consists of different forms of modelling. The child could be shown films or videotapes on the day of the appointment or at a previous visit of a

successful dental appointment, or he could preview the dental experience by attending the appointment (preferably an examination or a recall) of other children, siblings or parents. The goal is to have the child produce behaviour exhibited by the model, either an actor or live model. This method has its concept based on the Social Learning Theory developed by Bandura, which embodies the idea that both consequences of behaviour and an individual's beliefs about those consequences determine personality.<sup>2</sup> This theory develops the concept of observational learning, which is learning through observing the kinds of consequences others (called models) experience as a result of their behavior.<sup>2</sup> Thus in the dental context, the child sees the dental appointment as a non-threatening, even enjoyable, experience for the model who is seen to behave co-operatively with the dentist. The child then will copy the model's behaviour, which he believes brings about the favourable consequences. A study on strategies used by dentists in Victoria showed an extremely low use of modelling tapes and films.<sup>9</sup> However, many general practitioners use behaviour modelling by siblings as an effective approach for the first attendance by a young child.

### Application fo Hypnosis

Hypnosis is cited as a state of mental relaxation and restricted awareness in which subjects are usually engrossed in their inner experiences such as feelings and imagery, are less analytical and logical in their thinking, and have enhanced capacity to respond to suggestions in an automatic and dissociated manner.<sup>5</sup> Hypnosis thus enables one person to control another person's behaviour, thoughts and perceptions.<sup>20</sup> Hypnosis can be applied in various ways depending on the level of fear and anxiety of the paediatric dental patients. These approaches can be divided into informal and formal techniques.<sup>5</sup>

### Informal techniques

This technique is used with children and adolescents with mild anxiety. The concept is to be communicated with the subject in such a way that they only experience feelings that are suggested to them. Shaw and colleagues cited an

illustration of this approach stating: the dentist does not say "this needle will not hurt" but rather "You will feel a little pressure of my fingers on your gums but you can manage that quite easily now. There you are! Soon you will feel the comforting numbness in the right place for us to work on... before you soon go back to school... feeling good."<sup>5</sup>

Another informal approach involves "suggestion therapy" where the child is encouraged or suggested to fantasise. Small children's attention can be focused on the clinician's voice using a favourite story or fairy tales or on looking for a hidden character on the picture on the ceiling. Attention of older children and adolescents can be focused on imagery of favourite holiday playing or listening to favourite music or playing with computer games.<sup>21</sup> In another technique, the clinician could suggest the child to fantasise that he is very strong by showing great admiration to, and surprise at, the strength of child's hand shaking. The child is then asked if he could help the clinician by being cooperative since he is so strong. Often the child conforms to the clinician's suggestion and behaves in a very cooperative way. Other techniques, being suggested to create hypno-analgesia, involve direct suggestion of numbness or involve the child imagining the nerves supplying a particular area and using imaginary switches to turn off the sensation.<sup>5</sup> The "magic technique" was cited as an example in which a small circle is drawn on the back of the hand and suggestion is given that the area will become numb. The child is then shown how to move the numbness to the mouth so that it can be used before giving injections. This "suggestion therapy" is very successfully used due to the high suggestibility of children.

### Formal techniques

Formal techniques generally involves simple induction, a deepening procedure, post hypnotic suggestion and alerting the patient.<sup>5</sup> Induction could be achieved by eye fixation or confusing patients with words and stories. Clinician or patient could carry out this formal technique if self-hypnosis is taught appropriately.<sup>22</sup>

### More complex applications of hypnosis

More complex application of hypnosis involves hypnotising dental patients in the chair using hypnotising techniques. This technique has been applied in paediatric dentistry to children who reject or otherwise can not receive pharmacological methods or behavioural interventions.<sup>4</sup> Gokli and colleagues demonstrate that hypnosis can decrease crying and pulse rate in paediatric patients during injection of local anesthetics.<sup>23</sup> Shaw and Welbury's findings suggest that hypnosis can be used successfully as an adjunct to inhalation sedation and conventional management skills for dental extractions in selected children.<sup>24</sup> Peretz reported success in reduce anxiety using hypnosis in a severely anxious paediatric dental patient.<sup>4</sup> The clinicians created the hypnotized state in patients by confusing them with words and stories. Although this type of hypnosis is effective as a behaviour management technique, its use in paediatric dentistry is still very limited due to increased appointment length, general dentists' limitation in capability to induce hypnosis, and the legal procedures involved.

### Discussion

Having described the underlying psychological theories in the above techniques, it is necessary to mention that different authors have had slightly different categorisation of those techniques. Connick and colleagues in a recent publication suggested that systematic desensitisation, psychological behavioural technique developed by Joseph Wolpe and used extensively by psychologists and by dentists, is composed by seven behavioural techniques: modelling, shaping, cueing, prompting, fading, distraction and reinforcement.<sup>14</sup> Tell-Show-Do is not considered to be a desensitisation technique. Meanwhile, distraction technique as Connick described, is considered to be one of informal hypnotic approaches by Shaw and coworkers.<sup>14,5</sup> While it is understandable that techniques such as modelling or shaping are included in systemic desensitisation since they are developed from the well-established principles of learning and thus could be intertwined, it is harder to associate a



technique such as distraction with desensitisation theory. The principles of distraction are different from those of desensitisation theory, which aims at eliminating a patient fear by teaching them how to cope with it in a step-by-step procedure. Distraction could indeed “desensitise” the patient at the moment of fearful situation confrontation. However, it does so by substituting the fearful stimulus with a different stimulus, thus gaining control over the ability of the patient to respond to the fearful stimuli. After the distraction, the fearful stimuli can still elicit a negative response in the patient since he has not been psychologically desensitised against those stimuli. The child who was distracted by fantasy stories and consequently had a smooth local anaesthesia injection can still be very fearful of later injection since he has not been taught how to cope with the fear. Meanwhile a patient who was treated with desensitisation technique gains confidence before the actual confrontation with the fear. Distraction technique is closer to “suggestion therapy” of hypnotic approach with the substitute stimuli resembling the clinician’s suggestion and the resultant response in the child’s inner feelings and imagery. Both approaches do not teach the child methods to cope with fear directly but give enhanced opportunity to establish positive experiences. In already anxious and fearful children, these techniques allow the development of confidence as treatment progresses.<sup>5</sup>

The Hand-Over-Mouth Exercise (HOME) is perhaps the most controversial technique in paediatric patient behaviour management. It is intended to help the hysterical child whose unsuitable behaviour cannot be modified by other behaviour management techniques to regain the self control that has to precede any effective communicative management.<sup>6</sup> It involves gentle placement of dentist’s hand over the child’s mouth and calm explanation of the behavioural expectations. Dentists however, must not express any anger when using HOME. It is mandatory to maintain a patent airway. When the child demonstrates self-control and more suitable behaviour, the hand is removed and positive reinforcement is given. Communicative management techniques should then be used to reduce the child’s underlying fear and anxiety.<sup>5</sup> The purposes of HOME are to

redirect the child’s attention to enhance communication with the dentist so that appropriate behavioural expectations can be explained and to extinguish any excessive avoidance behaviour to help the child to gain control. Its use is also to reduce the need for other more intrusive pharmacological methods and to ensure the child’s safety in the delivery of quality dental treatment.

Reactions to HOME by the dental profession are very much polarized in literature. A key question is “As a psychological tool in behavioural management of paediatric dental patients, does HOME have any psychotherapeutic effects and does it cause any long term psychological

*The Hand-Over-Mouth Exercise (HOME) is perhaps the most controversial technique in paediatric patient behaviour management. It is intended to help the hysterical child whose unsuitable behaviour cannot be modified by other behaviour management techniques to regain the self control that has to precede any effective communicative management.*

harm to the child patient?” Dentists advocating HOME consider it a psychologically based aversion therapy originally used by psychiatrists and psychologists to reduce unwanted behaviour by establishing an unpleasant response to the object that produces the undesired behaviour. They argue that HOME, when used properly, is the beginning of a positive process in which a child learns to appreciate and cooperate with the

dentist.<sup>25</sup> Barton et al’s study showed that children who undergone HOME seem to remember the negative medical experience but not the traumatic dental episode.<sup>26</sup> Others consider that dentists do not have the requisite training or knowledge to subject patients to aversion therapy, thus HOME should not be considered as part of routine dental procedure.<sup>27</sup> Weinstein rejects HOME as a behavioural management technique for paediatric dental patients altogether, thus discarding its psychotherapeutic use.<sup>28</sup> The two arguments, namely HOME is unethical and immoral and secondly, it inflicts long-term psychological harm on some children and creates dental phobias, remain to be argued and tested.<sup>29</sup> The fact that HOME is generally the most unacceptable technique to parents has been proven by studies on parental acceptance of various behavioural management techniques.<sup>12,13</sup> There is also a substantial decrease in the popularity of the technique among current practicing dentists with most of the younger dentists claiming rarely, or almost never, using HOME.<sup>9,10</sup> Regardless of its controversial psychotherapeutic nature, increasing public disapproval and legal liability concerning the use of HOME have caused a substantial reduction in and perhaps, future disappearance of, its utilisation in paediatric dentistry.

As the purpose of behaviour management is mainly to shape the child’s behaviour, most of the techniques use the behavioural approach of psychology, which describes behaviour in terms of stimulus and response. Behaviour here is simply the consequence of environmental influences without the role of thought processes.<sup>30</sup> The common use of this approach relies on the assumption that the paediatric dental patients’ developmental cognition limits them from having a true perception of dentistry. Thus most of the techniques bypass the possibility of educating the child patient’s perception. However, children today differ from those of 30 or 40 years ago, when many of these techniques were developed. Earlier social contacts as school begins earlier, together with rapid development of the media and Internet, make children become more mature, aware, independent and perceptive than those of the same age in the past. This fact could lead to an increase of use of another approach of

behaviour management, namely the humanist approach. The humanist view of behaviour is that dental behaviour is a direct result of the child's perception of dentistry at the moment of treatment. Thus misbehaviour could be stopped by presenting dentistry to the misbehaving child in a more acceptable way so that he will change his own behaviour accordingly.<sup>30</sup> Cooperation would be achieved not by training but by changing child's perception. To most misbehaving paediatric patients, dental treatment is a strange, frightening and endless procedure carried out purely on the wish of their parents by a distant stranger knowing and caring nothing about their fears and feelings. This perception would change upon the dentist's explanation of the purpose of the procedure and its necessity to the child's own benefit and well being in terms understandable to the child. The dentist could say "Amy, what is your favourite food?... Fine... See, you've got a lot of bugs in your teeth. I have to take them away from you before they eat up all your teeth. Without teeth you cannot enjoy your favourite food anymore. So would you work with me to save you teeth by staying very still?" Allowing the paediatric dental patients to take control of their behaviour changing process, this approach thus is consistent with the general trend in paediatric dentistry to move away from aggressive techniques such as HOME (in which the dentist plays an authoritative figure) towards techniques such as Tell-Show Do (which give the child a more active role in the dentist-child relationship). However, probably much more time and professional education is needed before this approach becomes a larger part of behaviour management to dental paediatric patients.

## Conclusion

In conclusion, the majority of behaviour management techniques used in modern paediatric dentistry are strongly based on the learning theories of behavioural psychology. Classical conditioning, operant conditioning, social learning theory and systemic desensitisation are the most frequently applied theories. More practical use of hypnosis recommends its use beyond special paediatric dental patients. Having been developed and refined

over the last several decades, the application of these behaviour management techniques enables paediatric dentists as well as general dentists to deliver high quality treatment with the least discomfort to children. In many cases, behaviour management techniques are successful in creating enjoyable dental experiences and positive dental attitudes. With the increase in application of humanist theories and recent decrease in application of controversial, aggressive theories, the behaviour management of dental paediatric patients nowadays can bring the dentist and child patient closer together while still achieving its goals.

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# 13th ANZSPD Conference Report

The 13th Biennial Conference of the ANZSPD was held at the Brisbane Hilton Hotel from 14-16 November 2002. Professor Anna Fuks from Israel was invited as the keynote speaker to address topical issues on the conference theme "The pulp material interface – fact or fiction". Dr Robin Whyman, previously executive director of the New Zealand Dental Association, was also invited to present a futuristic viewpoint of children's oral health issues from a public health perspective. Professor Ian Meyers and Dr John McNamara provided local speaker support with expert dental material and endodontic

Many of the 240 delegates attended the welcome cocktail party held on the Thursday evening on the pool terrace at the Hilton Hotel. It was pleasing to see so many familiar faces from previous conferences and to greet a considerable number of new members and guests to the group. Social activities were later adjourned to Siggis restaurant where several delegates and their attire parted company in the ensuing frivolities, presumably due to the warm spring weather. Despite having only arrived earlier that day direct from Bangkok, our two intrepid overseas guests,



*Dr Richard Widmer (past president), Dr Chris Olsen (President and Victorian councillor), Dr James Lucas (invited IAPD organising committee member), Dr Jackie Robinson (Colgate Oral Care), Dr Callum Durward (New Zealand councillor), Dr Kerrod Hallett (immediate past President and Queensland councillor), Dr Tasha Dodd (Tasmanian councillor) and Dr Alistair Devlin (Secretary Manager)*

viewpoints respectively whilst more recent paediatric dental graduates were also featured on the scientific program to give short responses to the keynote speaker presentations. The issues covered were chosen for their relevance to everyday clinical paediatric dental practice.

ANZSPD executive council met with Dr Jackie Robinson, Professional Relations Manager, Colgate Oral Care on Thursday evening prior to the conference proper to discuss the ongoing association between the society and Colgate Oral Care, our principal sponsor for the national meetings. It is hoped that this mutually beneficial relationship will continue for the foreseeable future.

Anna and Moses Fuks were keen to experience some of the local brew and culinary delights that Brisbane has to offer.

The next day brought an early start to the official program. The Honourable Wendy Edmond, Minister for Health, Queensland Government, officially opened the scientific program with an incisive review of children's oral health policy and issues in Queensland. It was most pleasing to hear the Minister speak in support of children's oral health promotional projects and to commit additional state funds in these times of increasing competition for limited public health resources.

Professor Anna Fuks set the pattern for the conference scientific program with



*Professor Anna Fuks giving the opening presentation of the scientific program*

a stimulating presentation on conservative pulp therapy – do we need to use pulp liners? Following a response from Dr Katie Ayers, the audience was invited to participate in the ensuing debate.

This successful format was repeated during the following themed sessions by local responders Dr's Soni Stephen, Eduardo Alcaino, Candy Mason and Timothy Johnston. In addition, six contenders Dr's Erin Mahoney, Vivienne Linnett, Peter Readman, Kylie Pearce, Lochana Ramalingam and Annetta Tsang delivered their recent thesis findings in the Colgate ANZSPD Postgraduate competition. The quality of the presentations was extremely high and the judges were faced with an extremely difficult task to



*Professor Anna Fuks, Ms Wendy Edmond and Dr Kerrod Hallett prior to the opening ceremony*





*Ms Sue Forrester, Dr Jackie Robinson and Ms Narelle Bird welcome visitors to the Colgate Oral Care booth in the exhibition*

determine the eventual winner, Dr Lochana Ramalingam from the University of Melbourne. Hopefully, Dr Ramalingam will be able to present her research paper at the next meeting of the International Association of Paediatric Dentistry.

Another successful addition to the conference format was the introduction of a conference happy hour on the Friday evening to allow delegates to meet with dental industry representatives in a relaxed atmosphere following the scientific program. The organising committee was most appreciative to Colgate Oral Care, 3M ESPE, GC, Dental Protection Ltd, Queensland Health, Braun Oral B, Dental Medical Technologies, Dentsply Australia, Medfin Australia and Software of Excellence for their presence in the conference trade exhibition.

Table clinics were presented by a number of institutions including University of Sydney, Royal Children's

Hospital (Brisbane) and Westmead Centre for Oral Health. Special mention to Dr Peter Day from the Leeds Dental Institute for travelling all the way from the UK to present a poster at the meeting.

Many of the conference delegates complemented the conference organisers on the superb audiovisual effects. Both the opening video and the dual data projection presentation were provided by an expert AV team. Our meetings have matured to a point now where professional presentation standards are essential for successful communication and audience participation.

The conference social activities continued with a members only function at the Customs House Art Gallery and culminated in the conference dinner at the Hilton ballroom on Saturday evening. Who could forget the night of non-stop music and dancing to the beat of the Latin Fiesta Band or the cross cultural exchange and frivolity of Wongies bar afterwards. Our grateful thanks to Ed and Peter for sharing their sumptuous lodgings for all and



*Dual data projection used for the conference lecture presentation*

sundry and providing the unexpected entertainment for the meeting.

The conference unofficially closed sometime in the early hours of Sunday morning and delegates found their ways home later that day. The meeting generated a profit which will be used to provide financial support to the



*More of Wongies bar – but where's Wongie?*

upcoming IAPD meeting in Sydney in 2005. Detailed statements will be published later in Synopses after completion of the audit process and presentation of a formal conference report to the ANZSPD council meeting. My heartfelt thanks to our conference organisers (Organisers Australia) and to my other committee members for their hard work and support over the last three years. I think we can be justifiably proud of a job well done and look forward to reconvening in Melbourne next year for another chapter in the society's professional calendar.

Warmest regards,

*Kerrod B Hallett  
Convenor, Organising Committee  
13th ANZSPD Biennial Conference*



*Wongies bar after the conference dinner and Latin Fiesta Band had taken effect*



# ANZSPD – Branch News 2001

## New South Wales

Another busy year has finished for the NSW branch of the society. We have over 50 active members, and have welcomed a number of new members. This year we held three dinner meetings at our usual venue, The Duxton Hotel at Milson's Point. Recent years have seen us change from four to three meetings, as there are always "extras" to fill the calendar. For us, the main extra was hosting the ANZSPD visiting lecturer, Professor Luc Martens, whilst some of our more jet-setting members attended the IAPD conference in Paris during the month of September. The branch also provided sponsorship to Dr Ivar Tongia, a dentist practising in Papua New Guinea, to attend the Paris conference.

The three meetings for the year 2001 were as follows:

**Tuesday 20th March** This meeting discussed "Mandibular Incisor Crowding". Our guest speaker was Professor Gerald Wright, who is currently Professor Emeritus in Paediatric Dentistry at the University of London, Ontario, Canada. Prof Wright was in Australia as a Visiting Senior Lecturer at the University of Sydney. He spoke on a number of issues concerning space in the developing dentition. This meeting set a record for the biggest response in a number of years!

**Tuesday 3rd July** This meeting discussed "Paediatric ENT", with our guest speaker being Dr Chris Dalton, a paediatric ENT surgeon from the Children's Hospital, Westmead. Dr Dalton gave an excellent overview of "a day in the life of an ENT specialist", as well as discussing the links between occlusion and ENT problems. This created quite a lively discussion, especially with the large number of orthodontists who attended this meeting.

**Tuesday 4th September** This meeting discussed "restorative techniques in the primary dentition". Our guest speaker was Dr Peter Readman, the current Senior Registrar in Paediatric Dentistry at the Westmead centre for

Oral Health and the Children's Hospital Westmead. Dr Readman gave a thorough overview of the current aspects of restorative dentistry, as well as some ideas for the future. With some great photos, this was a very practical discussion.

The last event of our year was the ANZSPD visiting lecturer. This year it was professor Luc Martens, from Belgium. Prof Martens gave a one-day series of lectures, covering caries risk, restorative techniques, trauma, and some controversial thoughts on water fluoridation. The day was very well attended by not only local members, but also by visitors from country NSW, Melbourne, Brisbane and New Zealand! Prof Martens seemed to enjoy his stay as much as we enjoyed the lectures. We are sure he will never forget climbing the Sydney Harbour Bridge – he thought we meant walking over the footpath – not over the Arch!!

*Juliette Scott*

## New Zealand

This last year has seen a decline in trans-Tasman relationships, which is a disappointment but shouldn't affect our ANZSPD relationship!

Executive members have been very productive in many ways with Katie Ayers having a baby girl in 2000, and Nina Vasan delivering a baby boy named Shaquille in August. All are doing very well.

Luc Martens visit brought a flurry of activity and we all enjoyed his company and his lecture series. His lecture on Oral Hygiene for the Disabled was organised by Callum Durward and attended by many carers, who were absolutely thrilled by his presentation. It was a very good public relations exercise for the branch. The dental presentation in Auckland had a disappointing turnout but the same presentation in Christchurch exceeded our expectations.

In 2002 some members of the executive have been involved in submissions to the NZ Government on 'Healthy Eating Healthy living'.

Our Government is concerned about the rapidly rising levels of obesity and diabetes in New Zealand. However the NZDA and ANZSPD (NZ Branch) are concerned at the Government proposed initiatives to encourage people to eat less fat but more carbohydrates with no consideration to factors relating to dental caries.

Currently some members of the ANZSPD executives are involved in agitating for review of the SDBfee schedule (publicly funded dentistry which the school dental service cannot reasonably provide) but time will tell as to how successful we have been.

We are all looking forward to meeting you all in Brisbane in November.

*Mary-Anne Costelloe*

## Queensland

Under the stewardship of our President, Dr John Keys, the Queensland Branch had another successful year with a varied lecture program of high calibre presentations.

Dr Neil Savage, a Brisbane Oral Pathologist, opened the first Branch meeting for 2001 speaking on paediatric oral pathology. Our April meeting saw Professor Gerald Z. Wright of London, Ontario, Canada make a lightning visit to Brisbane and present his lecture on "The Evolution of the Dental Office as a Management Tool". Dr Keith Sanders, an orthodontist in private practice, spoke on submerged teeth in June and Dr Vivienne Linnett, a Paediatric Dentist, completed our program with a presentation of dental erosion in children.

The Society's Annual General Meeting was held in November with Dr Bill Wilson and his wife Kaylee attending as our honorary guests. Members had the opportunity to personally congratulate Dr Wilson on his award of an OAM this year. Bill's contribution to paediatric dentistry in Brisbane and his support of the Queensland Branch over the years is unparalleled and the award is most deserved.

The organising committee for the 13th ANZSPD Biennial Conference in 2002 has been hard at work this year. We are delighted to announce the keynote speaker will be Dr Anna Fuks, Professor of Paediatric Dentistry at the Hadassah School of Dental Medicine in Jerusalem, Israel. With such a renowned international speaker, the program promises to be innovative and controversial – so cross off your diaries for the 14–16 November 2002 and visit the Sunshine State in support of the conference.

*Irma Rutar*

## South Australia

The South Australian Branch has had an interesting and busy year with four supper meetings held at ADA House. There were approximately 30 active members of the Society for 2001. All meetings were well attended by members, guests and dental therapists.

Meetings throughout 2001 were as follows:

**Tuesday, 6th March 2001** Our first meeting for the year was well attended. Dr Margaret Evans, Paediatric Dentist spoke on Class II restorations – What works? Margaret reported that Fuji II LC performed better clinically as a Class II restoration as fracture resistance was better than Fuji IX. Our second speaker was Dr Simon Freezer, Orthodontist who spoke on Space Maintainers. In summary, Simon advised space maintainers do have a role but it is important to look at the complete picture.

**Tuesday, 29th May 2001** Our guest speaker for this meeting was Dr David Moore, Paediatric Gastroenterologist. David's presentation and accompanying slides on Gastric Reflux was well received. David reported that chronic regurgitation was often asymptomatic. A 24-hour pH test can detect gastro oesophageal reflux, its severity and the number of reflux episodes. The probes are generally well tolerated by children. In addition Ms Sue Elliott, Consultant from TeethSmart SA, provided a table presentation of resources available for oral health promotion.

**Tuesday, 28th August 2001** Ms Nadia Cerro, Senior Nutritionist at the Women's and Children's Hospital presented a very interesting lecture on Good Food for Kids. Nadia recommended if there is to be a change in dietary pattern then make sure the whole family is involved not just the child. Other interesting points raised included:

- 73% of total sugar intake is in processed foods
- failure to thrive children usually have too much milk or juice to drink
- two hours break between eating is OK for even the most active toddlers who need regular meals for energy requirements

**Tuesday 20 November 2001** The final meeting for the year discussed the Role of Fluoride Therapy for Children. Dr John McIntyre, Visiting Research Fellow from The University of Adelaide presented an interesting and informative lecture. John reminded us that fluoride plays an essential part in reducing caries activity but we need to be careful with its use because of the possibility of fluorosis in the developing permanent dentition.

The AGM will be held at the first meeting for 2002 at which time new office bearers will be elected.

At the recent AGM a new committee was elected. The efforts of the outgoing president, Dr Candy Mason, and treasurer, Dr Christine Adams were duly acknowledged. The new committee consists of Dr Vicki Farmer (President), Dr Scott Smith (Vice President), Dr Jenny Branson (Treasurer), Dr Sue Springbett (Secretary) and four other committee members Drs Meredith Fantham, Rob Shea, Candy Mason and Janez Cernelc. At the AGM we had a very interesting talk from child psychiatrist Dr Prue McEvoy who outlined possible causes of poor behaviour in children at the dentist. We have three other meetings planned for the year, which will include a talk, by the Federal President, Dr Kerrod Hallet. Kerrod will be talking about the use of dental appliances in special needs children. The other two sessions this year will cover General Anaesthesia in the young dental patient (presented by an

anaesthetist from The Women's and Children's Hospital) and the management of dental trauma in children (presented by an Endodontist). We are looking forward to another good year of attendances and hope to also establish a smaller study group for those wanting to present cases.

*Sue Springbett*

## Tasmania

Tasmanian branch is a small but enthusiastic group led by Tasha Dodd. Our main activity last year was hosting a Roger Hall lecture presented by Prof Luc Martens. This was well attended in a superb venue on the Hobart waterfront.

*Wayne Ottaway*

## Victoria

February saw the commencement of Victorian Branch activities with Professor Kim Seow providing an informative half day program on topics of "Occult caries" and "Current concepts in early childhood caries". Many of us will now look more carefully at unerupted teeth on OPGs! The Des Crack Memorial Prize was presented to Dr Matthew Chan by Mrs Sally Crack. The venue of the Melbourne Zoo Conference Centre provided a relaxed ambience for the day.

At our April dinner meeting Orthodontists, Drs Samar Amari and Albert Wong, provided members with an update on modern orthodontic techniques, with an emphasis on appliances and methods that they have introduced into their clinical practices.

A one day regional conference was held at Echuca, on the bank of the Murray river, in conjunction with the local ADA group. It was well attended by country Dental Health Services Victoria dentists and therapists, as well as by local private practitioners. Invited keynote speakers Dr Nikki Kilpatrick and Professor Louise Brearley Messer provided information on the durability and suitability of current restorative materials in paediatric dentistry; and on effective

diet counselling techniques for our child patients respectively. Other presentations given by Branch members included a talk by Dr Karen Kan on fluoride protocols and proprietary fluoride preparations in clinical practice, management of knocks and bumps by Dr Chris Olsen, use of full coverage restorations by Dr J Sheahan, and a historical perspective and update on nitrous oxide relative analgesia by Dr Jamie Robertson.

At our October dinner meeting ANZSPD Federal President Dr Kerrod Hallett delivered the annual Elsdon Storey Memorial Lecture, a presentation and personal view on exodontic techniques and minor oral surgery in children. This was preceded by a short talk outlining the late Professor Elsdon Storey's life and professional activities, especially his promotion of water fluoridation and research into bone growth, by his daughter in law, Dr Christine Rodda. A brief Annual General Meeting followed the educational component of the meeting.

Our end of year social function on Friday 30th November is to be held at Rydges River Walk, a venue with an idyllic backdrop of the Yarra River on a summer evening.

Next years program is currently being developed to include a range of stimulating and diverse topics.

*Chris Olsen*

## Western Australia

The programme for the WA Branch started out at the March meeting with something that wasn't strictly paediatric dentistry, except that it featured one of the members of the branch as one of the speakers. The member in question was Mark Foster. Mark had been a member of the Dental team at the Polyclinic in the Games Village at the Sydney Olympic Games. He spoke on "Dental Care at Sydney 2000". Further, Mark arranged another speaker for the evening meeting, Dr Daelyn Cullen. Daelyn is a Sports Medicine Physician, and she spoke of her time at the Games in a talk entitled "Sports Medicine at the Sydney Olympics". The logistics and scope of the provision of sports medical and dental services at an event such as an

Olympic Games were well illustrated, and it was intriguing to hear how the organisers had gone about it, their deserved success and a few of the interesting cases and sidelights of the two weeks.

The second meeting for the year was the regular Mid-Winter Meeting and Pot Pourri. This year, the meeting was held at the well-appointed Abbey Beach Resort in the town of Busselton. Busselton is situated on Geographe Bay in the south west of Western Australia, about 240 kilometres south of Perth. The usual format for this meeting was followed, with the first afternoon devoted to the guest speaker. In this instance, the speaker was Perth endodontist, Dr Tim Silbert. Tim spoke on "Endodontics in the Traumatized Dentition", a topic which was well presented and received. Tim also spoke on the latest innovations and materials being used in endodontics, and this proved to be particularly interesting. Members and partners enjoyed a dinner at Wise's Vineyard Restaurant that evening, and on the following morning, reconvened for the Pot Pourri. As usual, there proved to be more material and discussion than time available, as a whole range of topics were presented.

The final meeting for 2001 was the R.K. Hall International Visiting Guest Lecturer, Professor Luc Martens, who presented on 8th November at the Hyatt Regency Hotel. As other branches will attest, Professor Martens proved to be a most competent presenter. The supporting speaker was Dr Jack Goldblatt, who is the Director of Genetic Services of WA. Dr Goldblatt spoke on the Human Genome Project. The topic was interesting enough in its own right – however, the entertaining presenting manner of Dr Goldblatt ensured it was a lecture enjoyed by all in attendance. At the conclusion of this one-day course, the branch held its Annual General Meeting. The following office bearers were elected:

**President:** John Winters.

**Secretary-Treasurer:** Alistair Devlin.

**Committee Members:** Peter Dillon, Kate Dyson, Mark Foster, Peter Gregory, Tim Johnston and Nita Pai.

**Federal Councillor:** Tim Johnston.

*Regards,  
Alistair Devlin*

## ANZSPD – Federal Report 2001

2001 being the year following the year of a Society Federal Convention, it was the year of the R.K. Hall International Visiting Lecturer. Once again, through the generous sponsorship of Colgate Oral Care, the Society was able to organise the visit of Professor Luc Martens. The inaugural R.K. Hall Lecturer had been Professor Edwina Kidd who visited Brisbane, Adelaide and Melbourne in 1998. The idea is for provincial branches to have a visit from the R.K. Hall Lecturer every second year. Therefore, in 2001 it was the turn of New Zealand, Tasmania, New South Wales and Western Australia. Professor Martens, who is from Ghent in Belgium, delivered courses in Auckland, Christchurch, Hobart, Sydney and Perth. He was able to leave our shores with a vivid impression of the vastness of the territory covered by our Society! In addition to the day courses he presented, he also presented a short course in Auckland on Oral Hygiene for Institutionalised Patients. From all reports, this was very well received. It was a course attended by dental folk plus many carers from such institutions. The carers were particularly pleased to have this instruction, something not ever provided before. In fact, it was agreed it was a shame Professor Martens' whistle-stop tour did not allow more time for this course to be presented at the other cities he visited.

The Federal Council had met in Brisbane at the time of the Federal ADA Congress. Probably, the most important matter considered was the International Association of Paediatric

Dentistry Congress, which is to be held in Sydney in 2005. First and foremost, it had become apparent that any contract between IAPD and ANZSPD firstly, and a congress organising company and ANZSPD had to be with the Federal body in each instance. By contrast, whenever a Federal Convention is conducted, this will be by a provincial branch on behalf of the Federal body. With this the case, it became necessary for the Federal Society to become incorporated. This has been duly done, in the State of Western Australia. The major part of this exercise was changing the Constitution of the Society so it would comply with the requirements of the relevant Government department in Western Australia, and this process was effected at a Special General Meeting held in Hobart at the time of the visit of Professor Martens to that city. The opportunity for the virtual rewriting of the Constitution was seized upon to bring about another change, the inclusion of an associate membership category. This inclusion has recognised a reality of which our Society has been aware for many a long day, and that is the fact that an enormous number of paediatric dental procedures are provided by dental auxiliaries in Australia and New Zealand. It was ludicrous that such providers were excluded from becoming members of a Society dedicated to promoting education in dentistry for children and adolescents.

In 2000, the Federal Council had decided to promote the idea of ANZSPD members becoming individual members of the International

Association of Paediatric Dentistry. For about AU\$100.00, it was possible to take out such membership, a good price alone for the subscription to the Journal of the Association. The Western Australian Branch members were the first ones to be given the opportunity of subscribing. The response of members was better than anticipated, with almost half taking up the offer. In 2002, the New Zealand Branch has followed the lead, and once again, the response has been most gratifying, with almost half the NZ branch members availing themselves of the opportunity to join up.

In 2001, ANZSPD conducted both an undergraduate and a postgraduate essay competition. The topic for the undergraduate competition was: "Discuss the application of psychological theories in the behaviour management of the paediatric dental patient." This competition was won by Le Anh Tran from Melbourne.

For the postgraduate essay competition, which is co-sponsored by the Federal body and the Victorian Branch (as it has been since the inception of the competition in 1995), the topic was: "Discuss alternative modalities in the diagnosis and management of early carious lesions." The winner was Kylie Pearce, bringing up a Melbourne quinnella.

Regards,  
Alistair Devlin

## ANZSPD – Branch News 2002-2003

### Victoria

Two thousand and two has seen a wide range of Continuing Education topics presented over five dinner Meetings held at University House, University of Melbourne.

At the first meeting for 2002 held in February Orthodontist, Dr Kip Homewood presented "*The retained deciduous tooth, why, when, how and what to do*", a topic of perennial

relevance to all who provide dental care to children. In addition the Dr Des Crack Prize was presented to Dr Hiti Madan for excellence shown in final year undergraduate Paediatric Dentistry in 2001.

At our April meeting Oral and Maxillofacial surgeon Dr Timothy Probert presented an interesting talk entitled "*Unusual encounters in the growing patient, an Oral & Maxillofacial surgeon's perspective on paediatric oral medicine and oral*

*pathology*". In addition paediatric dentistry postgraduate Dr Kylie Pearce presented a case report of management of a child patient with ectodermal dysplasia and hypodontia.

The June meeting was addressed by Prosthodontist Dr Gordon Burt on the topic "*Restoration of the broken down anterior permanent tooth – mature and immature*", which followed a case report by postgraduate Dr Siew-May Loo of management of an impacted permanent canine tooth.



At the September meeting postgraduate Dr Vanessa William reviewed childhood asthma and its impact on oral health, especially dental caries. This was followed by the main lecture for the evening presented by RCH Physician Dr James Buttery, who delivered an overview of infectious childhood diseases, current immunisation schedules, production of present vaccines, and a glimpse of research into possible future vaccines.

The Elsdon Storey Memorial Lecture was delivered at the October meeting by Dr Richard Widmer, Associate Professor at the University of Sydney, a former postgraduate paediatric dentistry student of the late Professor Storey, and well known to most Victorian ANZSPD members. At the commencement of the dinner Ms Le Anh Tran presented the findings of a final year undergraduate research project entitled "*Usage of tooth coloured restorative materials in primary molars by clinicians*". Prior to the Elsdon Storey Lecture Richard Widmer in giving humorous reminiscences of Professor Storey supervising his postgraduate studies provided glimpses of Professor Storey's creative and fertile mind, and his dedication to the promotion of children's dental health. The following presentation was entitled "Every day behaviour management for the dental team – tears, tantrums and treats". A brief Annual General Meeting was held following the Lecture.

The traditional and enjoyable ANZSPD Vic Branch End of Year function was held on Friday 6th December at Café Italia, adjoining the restaurant area of Lygon St, Carlton.

Chris Olsen

## New South Wales

The NSW branch of the society was very active in 2002 and saw the influx of many new members. We also had a good response from new dental graduates who sought memberships and have been attending our meetings regularly. The executive committee comprises of the following members:

**President:** Dr Soni Stephen

**Secretary:** Dr Erin Mahoney

**Treasurer:** Dr Antony Burges

**Members:** Dr Eduardo Alcaino, Dr Kareen Mekertichian, Dr Sally Hibbert, Dr Ronny Marks

The society held three meetings in 2002 and the first meeting for 2003 was held on the 25th of March. The list of speakers and topics varied from Dr David E Clarke speaking about his experiences in *Dentistry in the animal Kingdom*, Dr Sally Hibbert on the question of *Should we still care about restoring primary teeth*, Dr James Younessi on *Presentation and managing penetrating oral injuries in children* to Dr Soni Stephen who spoke about *Saliva – A flow of benefits* and Dr Peter Wong on *Dentistry in Cambodia*.

All meetings were well attended and the society received valuable positive feedback from the attendees. Many members of the society also attended the Biennial conference at Brisbane in November and played an active role in both scientific and social activities.

This branch has a very busy year ahead with a full day lecture program planned on the 27 June in addition to the regular evening meetings. We hope that many more new faces join us and attend our meetings this year and hope it would be an enjoyable and productive one.

Julie Scott

## Tasmania

This past year has been one of consolidation for the Tasmanian Branch. The biennial conference for ANZSPD was held in Brisbane, November 2002. A few dedicated Tasmanians members made the trip to the harsh weather conditions of Queensland for a stimulating series of international and local topics.

During this conference, the Tasmanian Executive Committee managed to secure the honour of hosting the R.K. Hall International Guest Lecturer Series for a third time.

Given the current world climate it was decided to avoid the unnecessary risk of international travel and to appropriate an interstate Guest Lecturer. This year we have the pleasure of hosting Dr Kim Seow, Associate Professor of the University of Queensland as the main speaker and Dr Chris Olsen, the Federal President of ANZSPD to co-present.

This event is to be held in Hobart, on Saturday 27 September 2003, at the Old Woolstore. The theme for this year is "*Paediatric Dentistry: New Thoughts*

*for Old*". Topics on the menu include: Managing Knocks and Bumps, Challenges in Caries Diagnosis for Children, Current concepts of Early Childhood Caries, Diagnosis, and Management of Unusual Dental Abscesses in Children.

I cordially invite any interstate members who wish to attend this course, especially those whom have not been to our delightful island, to do so, and hope to make it a visit to remember.

### Tasmanian Branch Executive

**President:** Dr Tasha Dodd

**Vice-President:** Dr Errol Kilov

**Treasurer/Secretary:** Dr Wayne Ottaway

**Dental Therapists'**

**Representative:** Mrs Aileen Mackenzie

Tasha Dodd

## South Australia

2002 was an interesting year for the SA Branch of ANZSPD. There was good attendance at the meetings which were both varied and interesting.

The year started off with a lecture from a child psychiatrist on management of difficult children. She explored the causes of this type of behaviour, it was good to get a completely different slant on 'difficult little customers'. The next meeting involved a talk from an Anaesthetist who works at the Adelaide Women's and Children's Hospital. Discussion revolved around criteria for selecting children for treatment under GA and management of medically compromised children.

Dr Kerrod Hallett was our next guest speaker and discussed Federal issues with the group as well as giving us an excellent presentation on treatment of orofacial burns. Our final meeting for the year was a discussion on the management of trauma in children. Our guest speaker talked briefly about trauma to deciduous teeth but concentrated mainly on injuries involving the permanent dentition.

The programme for 2003 got off to a good start with a very stimulating talk by Dr John Kibble on Dentistry in East Timor. John brought home to us the very difficult conditions under which the remaining Dental personnel in East Timor try to deliver basic care to the Timorese people.

Other topics on the programme this year include a talk on the use of hypnotherapy in dentistry, the use of GIC's in restoration of deciduous teeth and a visit from the Federal President, Chris Olsen.

*Sue Springbett*

## Western Australia

The WA Branch programme for 2003 began in resounding fashion on the weekend of 15-16 March. The branch combined with the University Continuing Dental Education Committee and the South West Convocation of Dentists to present "Update in Paediatric Dentistry". The course followed the branch's well proven mid-winter meeting formula of having the meeting in a country venue, having it over an afternoon and the following morning and having a dinner for participants and partners. The chosen venue was the Abbey Beach Resort in Busselton, which is about 220kms south of Perth, on the shores of Geographe Bay. The speakers were Dr Angus Cameron who had travelled over from Sydney, and the supporting speaker was Dr Nita Pai. The material presented covered a wide spectrum – from enamel hypoplasia and the management of it, dental trauma (especially affecting the immature permanent incisor), pulp therapy for the primary dentition, interesting dental anomalies and their management. The material was enthusiastically received by the sixty participants. It was great that Angus was able to travel to WA again – he has visited a number of times before, and one suspects he doesn't need much persuading to do the trip west.

Busselton is located at the gateway to the Margaret River wine producing region in the south west of the state. Therefore, it was most appropriate that the dinner be held at a winery, and in this case, the choice was an inspired one – Wise's Vineyard and Restaurant at Dunsborough. This establishment is positioned high above Geographe Bay, and enjoys a magnificent vista to the north down a valley and over the Bay. Course organisers, Kate Dyson and Carmel Lloyd had arranged it well by having a bus to transport everyone to and from the dinner, and by starting it early enough to allow the view to be seen

and enjoyed in a state which doesn't have daylight saving! The dinner also followed the usual ANZSPD script by being a very happy event!

The next event in the programme will be the annual Mid-Winter meeting. Whereas in the past, this meeting has been held in the south west, this year it will be held in the wheat belt of the state. It will be in the town of York, 100kms to the east of Perth, with the historic colonial mansion of Faversham House to be the venue for the meeting. Like the recent meeting held in Busselton, this meeting will be over two half days, Saturday afternoon, 26 July and Sunday morning, 27 July 2003. The guest of honour will be the Federal President of ANZSPD, Dr Chris Olsen. As usual, the programme on Sunday will be devoted to the Pot Pourri format, where members present cases of interest, journal article reviews, 'hobby horses', etc. On past performances, with the amount of discussion generated, time runs out before all material has been presented.

The other big meeting for the year will be a full day course on Friday, 14 November 2003. This will be in combination with the WA Branch of the Australian Society of Endodontology and will be on the topic of Dental Trauma.

The two societies had combined in the same way on this same topic over ten years ago, and so it was felt it was time for a re-run, especially as that particular course was the best subscribed course to that date ever held in the state.

Office bearers for the branch for 2003:

**President:** Dr Tim Johnston

**Fed Councillor:** Dr John Winters

**Secretary/Treasurer:** Dr Alistair Devlin

**Members:** Dr Peter Dillon, Dr Mark Foster, Dr Peter Gregory, Dr Peter Readman, Dr Siva Vasudavan.

Finally, the branch was sorry to learn that Nita Pai has decided, for family reasons, to leave Western Australia and move to New South Wales in the middle of 2003. Our loss will definitely be the gain of New South Wales – she will be sorely missed.

*Alistair Devlin*

## Queensland

This year has been a tremendously busy year for our Society. The new year saw a change of office bearers including myself as secretary/treasurer, and our president, Dr Laurie Bourke. We would like to take this opportunity to extend a very big thank you to Dr's Kim Seow (outgoing president) and Irma Rutar (Outgoing secretary/treasurer) for their enormous contribution to the Society. We also thank our Federal Counsellor, Dr Kerrod Hallett, for keeping the society abreast of events at the Federal level. One important milestone for the society has taken place this year, namely our Incorporation, following similar changes at the Federal Level of ANZSPD.

Dr Hugh McCallum, specialist orthodontist at the Children's Oral Heath Service, Royal Children's Hospital, Brisbane, spoke at our first meeting in February on "Team Management of Children Born with Craniofacial Anomalies". Dr Barbara Woodhouse, Oral and Maxillofacial Surgeon, delivered a very stimulating presentation of "Management of Facial Injuries, Jaw Mal-relationships and Deformities in Young Adults" at our second meeting held in May. Following that, Ms Helen Clifford, Oral Health Therapist, spoke in August on "Oral Health Promotion/ Prevention Intervention Programs for Young People". The final meeting of the Society will be on December 9 at the Brisbane Polo Club at which Dr Geoff Grundy will deliver a presentation entitled "Dentistry in the West - Recollections over 50 Years", at the President's At Home Meeting. Our AGM will be scheduled for March, 2003.

The year culminated recently with the 13th Biennial Australian and New Zealand Society of Paediatric Dentistry Conference at the Hilton Brisbane, 15-16 November, 2002. The conference was undoubtedly a tremendous success attended by more than 200 people enjoying a variety of presentations from international and national guest speakers. This event would not have been possible without the efforts of the organizing committee, Drs Laurie Bourke, Vivienne Linnett, John Keys, Ross McCasker, Irma Rutar, Paul Killoran and John Rutar. Special recognition goes to the Chair of the Organising Committee, Dr Kerrod Hallett, without whom this conference would not have been possible.

On behalf of ANZSPD(Q) Inc., we would like to sincerely thank our sponsor Oral B/Gillette for their continued support of the Society's annual meetings. We would

additionally like to thank 3M Espe for also providing assistance in this area and welcome them aboard. We look forward to continuing these relationships over 2003.

Above all, the Queensland Branch acknowledges the unending support of its members for whom the Society exists.

*Matthew Fracaro*

## ANZSPD – Federal Report 2002-2003

The Federal Council met at the time of the very successful Society Convention in Brisbane in November 2002. A number of matters were considered, the first of them the relationship between the Society and our principal sponsor of the last eleven years, Colgate Oral Care. Dr Jackie Robinson attended the meeting – a full and frank discussion was had, and the outcome was that both parties have committed to the continuation of the relationship. ANZSPD was able to express its gratitude to the company for the support given, and the Society was also able to give Colgate a clear idea of what role it sees for itself, particularly now the Australasian Academy of Paediatric Dentistry has established a role for itself, and has blossomed.

At the Council Meeting and also whilst Dr Robinson was there, representing the Organising Committee of the IAPD Congress in Sydney 2005, were Associate Professor Richard Widmer, Dr Jamie Lucas, Dr Ed Alcaino and Dr Kareen Mekertichian. Council was able to have a detailed briefing on progress with the Congress. Colgate has agreed to be a major sponsor for the Congress. One topic which was discussed for a considerable time was the question of how the provincial branches of the Society could support the Congress financially. There had been an initial idea (in 2000) that each branch could sponsor an overseas speaker, but this would have been well beyond the resources of some of the branches. The final outcome was that each branch provide financial support to the level they can afford. This took into account the fact that the Society had increased the level of the Federal subscription at the General Meeting of the Society at the Adelaide Convention in February 2000 so that the Society would be in a position to back the Congress financially. At the Brisbane Council Meeting, the Society has now become specific about the extent of that backing – a sum of \$A50,000 will be contributed and be used towards paying for the hire of the Congress venue at Darling Harbour in Sydney.

Once again, the Federal body is offering branch members the opportunity to take up individual memberships of the International Association of Paediatric Dentistry. In 2002, over fifty members from four branches availed themselves of this; there were already about twenty ANZSPD members who were individual supporting members of IAPD, so the membership drive has been a great success. The principal benefit such individual membership provides is an annual subscription to the International Journal of Paediatric Dentistry. It costs about \$A100 for an individual membership. An annual subscription to the Journal for an institution (eg. a University library) is over \$A1300. To further illustrate the value of individual IAPD membership, in 2003 the number of editions of the Journal per year will increase from four to six.

**Essay Competitions** Once again, ANZSPD is conducting two competitions, one for post-graduate paediatric dentistry students, the other for under-graduate students in all dental schools in New Zealand and Australia. This year, post-graduate students will have a choice of two topics: *"Discuss the oral care for children with malignancies"* or *"Discuss dental implications and management of children with bleeding disorders. Cite the evidence for the recommendations given."* The under-graduate topic is the second of those two topics i.e. on bleeding disorders. The closing date for entries in both competitions is 3 October 2003.

The R.K. Hall Colgate Oral Care International Visiting Lecturer for 2003 is Associate Professor Kim Seow. The Society was able to prevail upon Kim to accept this honour for this year, in a year when her personal work load at the University of Queensland had increased substantially. It had been hoped Kim would be able to visit four branches, but her availability meant only two branches – Tasmania and New Zealand – will be able to be visited.

At the Federal Council Meeting, it was

decided ANZSPD should look at establishing its own website. It would appear the timing of this decision has been perfect – the Federal Australian Dental Association is offering their assistance to affiliated societies wishing to do just this. The Australian Society of Endodontology Inc. is the first society to participate, and our Society will now look to follow suit.

The International Association of Paediatric Dentistry conducts a couple of competitions of their own each year. The first of these, The *Colgate Bright Smiles Bright Futures Award* is to honour innovative community based programmes in preventive dental education for children and carries a prize of \$US2,500. Entries for the 2003 competition, unfortunately, have already closed, but it is understood the competition will run again in 2004. The second competition has also closed for 2003 but should be running again in 2004. This is the *Bengt Magnusson Memorial Prize in Child Dental Health*, and it is sponsored by Astra Pain Control AB. This is an essay competition – the topic has to be in the field of Child Dental Health; the essay has to be of 4,000 words and the prize is 400 pounds sterling. Bear these in mind for 2004.

Finally, by way of preliminary notice. Each year, the Federal Australian Dental Association seeks nominations to their various Standing Committees. The committees are the Constitution Committee, the Dental Auxiliaries Committee, the Infection Control Committee, the Oral Health Education Committee and the TIME (Therapeutics, Instruments, Materials and Equipment) Committee. The nominations have to be in by October. If any member has a particular desire to serve on any of these Committees, or if any Branch feels they would like to nominate one of their members to serve on one of these Committees, further information will be provided closer to the time. Otherwise, please contact me directly.

*Alistair Devin*

## Coming events

- IAPD 19th International Congress. "Dentistry for Children and all that Jazz" New Orleans 16-19 October, 2003. Hilton New Orleans Riverside  
Contact: American Society of Dentistry for Children 211 E. Chicago Avenue Suite 710 Chicago IL60611 USA asdckids@aol.com
- 14th ANZSPD Biennial Conference. Melbourne, 18-20 March 2004. Invited speaker: Dr Stephen Fayle, Paediatric Dentist, University of Leeds, UK
- 20th IAPD International Congress. Darling Harbour Convention Centre, Sydney, Australia 31 October – 5 November, 2005. Contact: Sue Butterworth, Senior Conference Manager. ICMS Australasia Pty Ltd GPO Box 2609 Sydney 2001 sueb@icmsaust.com.au

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#### Submissions

All text for inclusion in Synopses must be submitted to the editor on floppy disk, zip disk, CD, or by email. Both PC and Mac formats are accepted. Media will not be returned. Address email to kan@iprimus.com.au. Please enclose your contact details and email address with all submissions.

#### Deadline next issue

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